DOCUMENT RESUME

ED 386 720 CS 215 016

AUTHOR Rupp-Serrano, Karen
TITLE From Gutenberg to Gigabytes: E-Journals and the Scholarly Community.
PUB DATE Mar 95
NOTE 13p.; Paper presented at the Annual Meeting of the Conference on College Composition and Communication (46th, Washington, DC, March 23-25, 1995).
PUB TYPE Speeches/Conference Papers (150) -- Historical Materials (060) -- Information Analyses (070)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Computers; *Computer Uses in Education; *Electronic Publishing; *Faculty Publishing; Higher Education; *Periodicals; *Writing for Publication
IDENTIFIERS *Electronic Journals; Historical Background; Scholarly Communication; Technological Adaptability

ABSTRACT

The electronic periodical may be defined as a publication that is not on paper but is rather created and stored by electronic means. That is, the electronic periodical is written, edited, refereed, and distributed by means of machine-readable files that are distributed via a telecommunications system. For the scholar, the electronic periodical may mean faster publication of research and the ability to interact more rapidly with colleagues. For the publisher, electronic periodicals may mean a new avenue of publication, or they may pose a threat to a traditional means of business. A short history of the electronic periodical would begin in the 1970s when the idea grew out of advances in telecommunication conferencing. The first electronic journal, "Mental Workload," was funded by the National Science Foundation. Today's electronic journals are a varied group, representing a wide range of topics and viewpoints, from popular to scholarly. The growing importance of electronic periodicals raises a number of questions and issues. Though one of the great benefits of the electronic medium is its speedy publishing and space available for reader commentary, the question arises as to whether or for how long reader commentary should be preserved. Also, academics are finding themselves asking how electronic publishing compares to traditional publishing in terms of career advancement and prestige. Contains eight references. (TB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 386 720

From Gutenberg to Gigabytes:
E-Journals and the Scholarly Community

Karen Rupp-Serrano
University of Oklahoma Libraries
401 W. Brooks
Norman, OK 73071
Ph. (405) 325-4231

PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

K. Rupp-Serrano

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

CS215016

BEST COPY AVAILABLE

From Gutenberg to Gigabytes: The Electronic Periodical Comes of Age

Periodicals are taken for granted in the modern world. From annuals to scholarly journals to daily newspapers, people from all walks of life regularly read periodicals. We commonly think of them as print-on-paper publications available on a regular basis, something we can tuck into a satchel or under an arm. But in today's information age, that is changing.

With equal parts fanfare and trepidation, a new entrant has arrived in the field of periodical publication. It is the electronic periodical. The electronic periodical may be defined as a publication which is not on paper, but is rather created and stored by electronic means. That is, the electronic periodical is written, edited, refereed and distributed by means of machine-readable files which are distributed via a telecommunications system.

In reality, much of the process described above has become common to the publishing world. Many periodicals spend the majority of their pre-publication life in electronic format. Often, an author writes with the aid of word processing technology, and sends the finished product in electronic format to an editor. The editor then edits the document in that format and sends it on to its final destination: a print-on-paper publication. An electronic periodical differs from this process in that it need never reach the print-on-paper format unless its readers desire that format. Being distributed directly to a computer through telecommunications technology, it can bypass paper altogether, making print an option, not a necessity.

What are the implications of this new format? For the scholar, the electronic periodical may mean faster publication of research and the ability to interact more rapidly with colleagues. For the publisher, electronic periodicals may mean a new avenue of publication, or they may pose a threat to a traditional means of business.

For the reader, electronic periodicals could mean more available information or the ability to comment and converse on an author's work. For the librarian, electronic periodicals may mean a solution to rising periodical subscription prices or a challenge to traditional forms of storage and access.

Electronic periodicals: A history

The idea of the electronic periodical was born out of the growth of computer teleconferencing in the 1970's. As telecommunications networks were devised which allowed computers and their operators to communicate with one another, the scientific community and information scientists such as F. W. Lancaster began to call for the publication of electronic journals (Gurnsey 131). These innovators viewed electronic journals as an answer to the costs of publishing and acquiring a rapidly expanding body of professional literature, and as a means to speed the dissemination of that literature. As any published researcher knows, the process of getting results in print can be quite lengthy, decreasing the relevancy of the research once it is in print. Thus, a format promising a more rapid dissemination rate is always "a consummation devoutly to be wished."

The first electronic journal was funded by the National Science Foundation as part of the Electronic Information Exchange System (EIES) in the late 1970's. The EIES journal, entitled Mental Workload, never published anything (Gurnsey 132). Thus, by publication standards, it could hardly be called a success. But it was a valuable first step, pointing out the amount of time and effort that would be required to write, edit, and referee material in an emerging format, and demonstrating the limitations of the computer systems of that era.

Within the past few years, electronic publications have again become an issue, this time a viable one. In 1992, more than 30 electronic journals and more than 50

electronic newsletters were operating, according to the Association of Research Libraries' Office of Scientific and Academic Publishing (13-71). Subscriptions to nearly all of these publications may be obtained at no cost. They cover topics such as creative writing, academic computing, hospitality, communication and medicine.

So why have these publications succeeded where Mental Workload failed? The reasons are numerous, but perhaps the most important is the development and spread of technology. Computer programs such as the revised LISTSERV program, developed by Eric Thomas, have made it much easier to handle the traffic involved in electronic journals (Bailey 31). Personal computers have become more available and affordable, and more people have access to computers, telecommunication systems, and electronic networks such as BITNET or Internet. Finally, people not only have computer and network access, but many understand the basics of how to manipulate modern computer and communications technology to send and receive electronic mail, engage in discussion lists, or subscribe to electronic publications. And if they don't know how, they often know someone who can teach them.

Electronic periodicals today

Today's electronic periodicals are a varied group. They represent a wide range of topics and viewpoints, from popular to scholarly. Newsletters and journals make up the bulk of their population.

Most newsletters are similar in content to print newsletters, offering brief features, announcements, and the like. They are often issued irregularly, coming out only when there is enough information to warrant an issue. Examples of currently available electronic newsletters include Between the Lines, a monthly about teen pop star Debbie Gibson; Canopus Magazine, providing a perspective on astronomy and space sciences from the American Institute of Aeronautics and Astronautics (AIAA);

Drosophila Information Newsletter, (yes, it is about fruit flies); Erofile, providing book reviews for titles in French and Italian studies; Thinknet, discussing philosophy, interdisciplinary studies, and systems theory.

Electronic journals generally have a larger editorial staff than newsletters and tend to follow their print predecessors in form. They contain articles, reviews, and regular features, but may or may not choose to embrace print conventions such as pagination or a set publication schedule. Some electronic journals send complete issues; some send articles as they become available; some send citations of available articles, along with information on how to retrieve them electronically. Examples of currently available electronic journals include: Bryn Mawr Classical Review, an electronic book review journal; The Distance Education Online Symposium, serving students and professionals in the distance education field; E-Journal, a peer-reviewed journal interested in the creation, dissemination, storage, etc., of electronic text; Flora Online, a peer-reviewed journal in the field of systematic botany; PACS-Review, discussing library end-user computer systems.

A word on access is in order here. Should you be interested in accessing an electronic periodical, you will need a computer that is connected to a network such as BITNET or the Internet. Usually, it is best to contact your local computing center to assist you in this first step. It can also be helpful to have on hand one of the many texts now available to aid one in navigating these networks.[1] Once you are "wired," you can generally subscribe to a periodical by sending a message to the electronic address of the journal. For example, to subscribe to The Online Journal of Distance Education, send the message SUBSCRIBE DISTED First Name Last Name to the

[1] See works by Britten; Kehoe; Krol; and Tennant, Ober and Lipow.

electronic address LISTSERV@UWAVM. You will then automatically receive issues of the journal as they are produced.

Electronic periodicals: Some concerns

As illustrated in the preceding section, electronic periodicals are as varied as today's technology will allow. And as with anything new, questions abound about these publications and their standards.

For the writer and reader, especially in the scholarly realm, the questions about electronic periodicals are numerous. Technology is a primary concern. While electronic technology provides some conveniences not available in the print medium, it still remains less convenient than print, which can be easily transported and used almost anywhere and at any time. How will this limit the use and acceptability of information published in electronic format? Technology also poses special problems for scholars in fields where mathematical formulas and other non-standard text is common. This is because today's electronic journals have not yet developed an inexpensive and comprehensive technology which is able to handle non-standard text. And technology is problematic yet again in its costs. While here in the United States, computer and telecommunications technologies are widely available at a relatively low cost, in other parts of the world this is not the case. How are citizens of the less-developed nations, who often have problems receiving information in print format, to keep up with developments in their fields which are reported in electronic format? Will electronic periodicals continue to widen the gulf between information "haves" and "have nots," both here and abroad?

Other concerns for scholarly readers and authors arise in regard to preservation of information in electronic format. For example, one of the potentially positive aspects of electronic publication is the ability to provide for reader comment. For

scholars, this means electronically soliciting the input of colleagues and revising material accordingly. This ability to interact rapidly could be of great value to reader and writer alike, as would the recording of reader comments, allowing an author or reader to trace the development of an idea. This, in turn, raises the question of how, or if, the comment is to be recorded. If recorded, will it be located at the end of a document, or in a separate file? Also, if the ability to revise based on comment is provided, one then must ask when an electronic publication should no longer be open to revision. Finally, preservation of information also concerns how the work is to be copyrighted and cited. Who will hold the copyright--author or publisher? And how will one cite a work which does not subscribe to common conventions such as pagination? Some style manuals are beginning to address this concern, but not all.

Of special concern is the ability to record reader comments and author responses to a manuscript. This ability to create a palimpsest of document, commentary, etc., opens up a very large can of worms regarding authorial responsibility and authority, such as Foucault discusses in his essay, "What is an Author?" Suddenly a much more complex author is before us. How will attribution and valorization be defined?

A final question of great concern to academics involves the acceptance of electronic publications in academia. How are electronic publications to be weighted in the academic reward system of tenure and promotion? Will publications in electronic format be considered worthy endeavors, or will they be discounted? This will depend greatly upon individual institutions and tenure documents. For scholars, though, surely it is in their best interest to see electronic publications awarded a weight equivalent to print publications. The same intellectual effort is involved; the process of refereeing is as important and is not carried out any differently than in a print

publication; and the costs, assuming equipment is already in place, are less, especially when contrasted to those publications which require that authors pay a page fee.

For publishers there are also concerns, although the concerns differ depending upon the publisher. For the commercial publisher, a primary concern is profit. Will electronic journals result in a loss of profit, either because they cut into readership of print publications or because they cannot be sold at high profit? For the scholarly publisher, the profit concern is not as great, and indeed, the electronic periodical will allow them to eliminate the commercial publishing middleman and take back their ability to publish for the societies they serve. Many of the scholarly societies have had to call upon commercial concerns to publish society publications, as they have been unable to afford to continue publishing themselves. Commercial publishers have been glad to publish for societies, as it has meant greater profit for them. Unfortunately, commercial publishing has raised the subscription costs of society publications, thus placing an extra monetary burden on individual and institutional subscribers. However, by eliminating paper publishing costs such as printing , binding, and the like, and turning to electronic means, scholarly publishers will again be able to provide cost-effective publication to their constituents.

For the librarian, whose job it is to provide and preserve information, the concerns are somewhat different. Access and storage are major questions. Will intellectual access be assured through inclusion in standard indexing and abstracting tools? How will convenient physical access to these new resources be provided to scholars? Should access be provided through publicly-available computer terminals with communications, downloading and printing capabilities? Or should journals be stored on magnetic disk, which may then be copied by the library patron or checked out to them? And speaking of storage, in addition to deciding how to store these

publications within the library, what about storing them outside the library? That is, who is going to take ultimate responsibility for electronically archiving these publications so that they are forever accessible via computer?

Cost is another concern. Electronic periodicals appear to have the potential of lowering costs by providing a low-cost alternative to print publications, the prices of which are continuing to rise. But what about the other costs, such as computers, communications equipment and disk storage?

Librarians are especially concerned that if electronic journals are to become a viable alternative to print, they must remain in the free or low-cost subscription category. So many print titles that have begun publication at reasonable subscription rates have, over time, raised those rates to the point that many institutions and individuals can no longer afford them. If this happens to electronic periodicals, as well, they will become a barrier to information dissemination, rather than a facilitator.

Another factor that could make electronic publications very attractive and viable is if the non-text character problem is solved. This would allow the sciences to publish more of their material electronically, thus helping to reduce costs on subscriptions to science journals, many of which cost in the four and five figure range.

Still other library questions hinge on the technical and legal uncertainties of a new publication format. Will the complexity of accessing this new technology scare off library patrons (and possibly librarians, too)? And is copyright law, which libraries must try to abide by, prepared to handle these new formats and preserve the intellectual work contained in them?

But for all these questions, there are positive points to be considered, as well. For everyone, electronic periodicals have the potential to be easier on the pocketbook and faster to receive and access. For the scholar and reader, electronic periodicals free them from the physical constraints of the office or the library. Electronic

publications also have the potential, probably in the not too distant future, of incorporating a variety of forms of presentation--not only text, but sound, moving images, and the like. Electronic periodicals can provide for interaction between authors and readers, and greater ease of revision. Electronic periodicals also present the potential for even greater specialization in publication; perhaps the example of Drosophila Information Newsletter is just a taste of of things to come. For librarians, the chance to minimize storage requirements and to provide information in a variety of formats will be almost as attractive as the lowering of subscription costs. All in all, the potential is at least as great as the current drawbacks, many of which may disappear as technology advances.

The future?

The future of electronic periodicals is not easy to predict. They have made great strides in the past fifteen years, with most of that progress occurring in just the last five years, as a number of pioneering individuals have taken on the responsibility of publishing periodicals electronically. In order for electronic periodicals to become a viable publishing option, however, a couple of things will probably need to occur.

First, technology will need to become even easier to use, and will need to be more accessible. Some of this is already being done, as a number of large academic institutions have developed end-user systems which make the interface to the networks seamless. That is, the user may do something as simple as make a menu choice, after which the computer relies on its extensive programming to connect the user to what he or she wants or to retrieve requested materials from the networks. If, along the way, one or two such systems become commonly used, this will expedite the process of standardizing such technology. It will ease the burden on the user,

because there will only be one or two systems to become familiar with, as opposed to the many available now.

In addition to increased ease of use and accessibility, there will also need to be a willingness to accept publications in an electronic format. Certainly, libraries and academic institutions can do much in this regard, and they will be called upon to do so, as they are prime users of electronic publications at this time. Libraries will have to make electronic periodicals available to their patrons, and academic institutions will have to take the step of accepting electronic publications in the tenure and promotion process. Publishers can aid librarians and academic institutions by keeping them abreast of new electronic publishing endeavors, and by ensuring that new electronic journals will have high publication standards and strong editorial boards.

While the future cannot be predicted, it is safe to say that electronic periodicals are an exciting new development in the field of publishing. Their potential to combine many of the formats we use now for communication--text, sound, moving images--in a rapid and low-cost manner, is a welcome addition to the information age.

Works Cited

Association of Research Libraries. Office of Scientific and Academic Publishing. Directory of Electronic Journals, Newsletters, and Academic Discussion Lists. 2nd ed. Washington, D. C.: Association of Research Libraries. Office of Scientific and Academic Publishing, 1992.

Bailey, Charles W. "Network-Based Electronic Serials." Information Technology and Libraries 11 (1992): 29-35.

Britten, William A. "BITNET and the Internet: Scholarly Networks for Librarians." C&RL News 51 (1990): 103-107.

Foucault, Michel. "What is an Author?" Language, Counter-Memory, and Practice: Selected Essays and Interviews. Ed. Donald F. Bouchard. Trans. Donald F. Bouchard and Sherry Simon. Ithaca, NY: Cornell University Press, 1977. 113-138.

Gurnsey, John. The Information Professions in the Electronic Age. Looking Forward in Librarianship. London: Clive Bingley, Ltd., 1985.

Kehoe, Brendan P. Zen and the Art of the Internet. 2nd ed. Englewood Cliffs, NJ: Prentice Hall, 1993.

Krol, Ed. The Whole Internet: User's Guide and Catalog. Sebastopol, CA: O'Reilly & Associates, 1992.

Tennant, Roy, John Ober, and Anne G. Lipow. Crossing the Internet Threshold: An Instructional Handbook. San Carlos, CA: Library Solutions Press, 1993.